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# The Culture and Ethnicity Influence on The Manifestation of Human Cognitive Styles

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## Abstract

Under the influence of a kind of social, historical, cultural and ethnic factors in the various ethnic communities of Kazakhstan some specifics in the content and display of cognitive strategies, cognitive styles were formed and consolidated. Examination and description of the essential features of the representation and display dynamics in the ontogeny of mental representatives of Kazakh and Russian nationalities, let understand adequately their daily existence and activities in relation to the conditions of the contemporary social environment. The research aims to determine whether KZKZ, KZRU and RU groups are dissimilar, whether the general trend of thought is similar to strategies put forward by us in the theoretical part of the assumption, is there dependence between culture and thinking features.

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## 1. Introduction

Empirically studied and discussed differences in the manifestation of cognitive styles, revealed general and specific one to the functioning of the mental strategies in carriers of the Kazakh and Russian cultures are necessary to understand the context in the "individual - ethno-cultural" and the need for adjustment of their interaction.

The problem of personality and individual differences is an important priority for all branches of psychology and related disciplines. Its study from the standpoint of accounting of ethnic-cultural affiliation of individuals, on the one hand, is unstudied up to the end, and can identify additional opportunities to describe the determinants and content of individual psychological characteristics of personality, on the other one.

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Human's personality can be described in the unity of psychic-and-physiological symptoms, personal and social characteristics of his mind. Physiological characteristics of the human psyche and their specific impact on the personal, social and psychological characteristics mediated mutual dependence of both and can be illustrated by the study of the cognitive sphere of different ethnic communities.

Analysis of the historical and ethnic representatives of the Kazakh and Russian nationalities suggests the functioning of the individual cognitive styles, manifested in the poly-dependence-independence and manifestation of mental operations and strategies, manifested in the process of perceived information from the outside world, can be different (Kolga, 1984).

## 2. Purpose of study

The most important determinants of the formation, development of cognitive sphere of different nations representatives' mental are cultural and economic structures, lifestyle and environment of people, the uniqueness of their education and training, ethnic-and-specific norms and rules of social behavior, motivation, situation and activity of their individual background and social activity, the mechanisms of perception, especially the process of socialization in ontogeny, pole-role-and-age characteristics.

## 3. Methods

While studying this subject the following methodic and tests were used: Gottshald's "test of embedded figures", author's special projective method to study "poly-dependence-independence" as the characteristics of the cognitive style; block of methods to identify style features of thought including L.A. Gromovoy and A.A. Alekseev's "Thinking style" questionnaire and various techniques of logical problems solving.

## 4. Findings and results

Mental strategies emerging in the national consciousness of the Kazakhs and the Russians have some differences, which are due to the specifics of their psycholinguistic specifics of their languages and peculiar manifestations of the perception mechanisms. Mental strategies are a complex, multi-level mechanism to respond to a set of significant objects and phenomena of the Kazakhs and the Russians. Invariant meaning of formation, formed in the minds of members of these two ethnic groups and functions as a stable system of personal meanings, which substantial modifications are determined by the culture specifics of individual and national experience are their basic components.

Disclosure of identity of mental strategies of the Kazakhs and the Russians, as people of different cultures can be done through the study of the specific values of the perceptibility, which are understood as: a) a part of the social consciousness of ethnicity and the manifestations of its cultural and historical experience, which develop according to the specific laws, and b) the most important component of individual consciousness.

At the same time it is necessary to consider the influence of the native language of the Kazakhs and the Russians, which plays a crucial role in shaping the stylistic features of their thinking.

System of invariant semantic categories in the cognitive mind of the Kazakhs and the Russians consists mainly of reflects of specific events related to the perceived experience, emotional evaluation of action strategies. It reflects the space-time continuums and energy-world view.

Semantic categorization of the Kazakhs' and the Russians' cognitive mental can be interpreted in different terms - value, valuation and motivational, and its type is determined by the leading features of the world view.

Analysis of the results such as the relationship of cognitive style and ethnicity was based on the results of participation in the empirical study of 1,200 people aged 18-21 years, among which were 600 Kazakh and 600 Russian people. The data of Spearman's rank correlation coefficient, where  $\chi^2$ -was Yates' criterion, and  $\chi^2$  – Pearson' one were used at the stage of compilation and interpretation.

During the work, the following results were received. There were 300 tested people. They were 198 poly-dependant people of Kazakh nationality with Kazakh language and only 102 people were poly-independent, of which 21 people – young men and 81 people – young girls. In Table 1 number indicators shows the results ( $\chi^2$  =

0,70).

Table 1. Share of "poly-independent-dependent" subjects of national linguistic identity

gender	KC	totally	KZKZ	totally	KZRU	totally	RU
young men	poly-dependant	78	57 (73,1%)	87	42 (48,3%)	150	90 (60%)
	poly-independent		21 (26,9%)		45 (51,7%)		60 (40%)
young women	poly-dependant	222	141 (63,5%)	213	123 (57,8%)	450	256 (56,9%)
	poly-independent		81 (36,5%)		90 (42,2%)		194 (43,1%)

Table 1 analysis shows the number, among young men poly-dependent subjects predominate with a total share amounted to 73.1% of all young boys. This ratio is slightly lower among young women, but, in general, in their group also poly-dependent subjects predominate with 63.5%.

In the group of the Kazakhs with Russian working language there were less poly-dependent people; there were 165 among 300 people. Most of them are young women. Number of young people with poly-dependent cognitive style was almost equal to the number poly-independent, while the poly-dependent girls are more, 123 poly-dependent young girls against 90 poly-independent ones, ( $\chi^2 = 0,7$ ).

Among Kazakh girls with Russian working language the share of poly-independent subjects didn't reduce in comparison with the previous group, while the number of "poly-dependent" young men is equal to the number of "poly-independent" young men ( $\chi^2 = 1,4$ ).

The "Russian" sampling ratio of "poly-dependent" and "poly-independent" tested men and women were almost equal.

Perhaps the only conclusion that follows from these data is that one can observe a tendency equalization of share of "poly-dependent" girls and boys in relation to their total amount, depending on the ethnic and linguistic characteristics of samples, and thus, this conclusion can be classified as hypothetical dependencies.

The data do not allow us to speak of any significant influence patterns of ethnic and linguistic features in the cognitive style of the individual and vice versa ( $\chi^2 = 2,6$ ).

Our findings disagree with Coles data (1997) and do not support the relationship of cognitive style on the basis of "poly-dependence" - "poly-independence" with ethnic features. Perhaps this is due to insufficient cultural differences in the samples. Apparently, we have the basis of the selected homogeneous groups, and cultural differences which are either absent or implicit. General information and cultural orientation of the space due to the Russian-language news sources (radio, television, newspapers, books), and the lack of the Kazakh national traditions in science and education resulted this homogeneity from our point of view. For example, in contrast to the U.S. studies, which are considered more polar groups of subjects (the Russians and the Americans, the Africans and the Europeans, etc.), our study did not have such a base.

Further, we correlated the values obtained by "Style of thinking" questionnaire with solving problems results (Alekseeva, Gromov, 1993). That is why with the data information about the preference for solving problems remembering how to solve them well they learned (empiricism), or tries to open a general, for similar situations and propose a concrete distinct from any other solution (theorists). Combining these data, we found out that: "analysts" with empirical mindset are 50%; "idealists" with empirical mindset are 16%, the "realists" with empirical mindset are 25%, and 9% "pragmatists" with empirical mindset.

Theorists are 35% of "analysts", 30% of "idealists", 23% of "realists" and 12% of "pragmatists".

$\chi^2$  calculation of the data was 1.38, which allows us to carry out further analysis of the results of "Style of thinking" questionnaire

Counting the frequency of demonstrated thinking styles, it can be noted that in the group of KZKZ respondents idealistic styles (41%) predominate, while the share of the analytical and synthetic sheet is 20%, respectively, slightly smaller is the group of pragmatists (15%), and group of realists (5%) is not represented.

In the group of KZRU respondents, there is a slightly different picture, almost all styles are represented in it about the same. Since the share of analysts are 29%, idealists - 27%, the realists and pragmatists - 17% and 15%, respectively, and finally, synthesizers - 12%.

For a RU group, the picture is almost the same as for the Kazakhs with the Russian language, i.e. 27% of analysts and idealists, slightly less are 23% of realistic ones, 15% of pragmatists and 9% of synthesizers.

Sample comparison without gender division, says that KZRU and RU groups are more similar to each other than with KZKZ group. This fact is somewhat exonerates the data that we obtained by comparing the field poky-dependence-independence where we get all three samples almost identical for this indicator.

Thus, we see that most have similarities between themselves KZKZ and KZRU groups, as well as KZRU and RU groups. In other words, if the Kazakhs with the Kazakh language are similar to the Russian-speaking Kazakhs, they are very different from the Russians. KZRU group as if caught between the two poles of the one she took the nationality of another language, which makes it similar and dissimilar with both KZKZ and RU groups. We assume that she mostly demonstrates the relationship of thinking and the national language factor.

Further analysis touched on the relationship of thinking styles by gender within each group: KZKZ, KZRU and RU. These data we present in Table 2.

Table 2. Correlation between the style of thinking in groups of respondents on the national and linguistic lines and sex (%)

Thinking style/Gender	KZKZ		KZRU		RU	
	boys	girls	boys	girls	boys	girls
Analyst	57	34	50	22	51	42
Idealist		23	26	39		16
Realist			24	21	49	27
Pragmatist		21				15
Composer	43	22		18		

Thus, we can observe the unequal representation of thinking styles as between groups, as in the groups according to the sex.

In KZRU group young men use three strategies - analysts, idealists and realists, and in the first place there is the analytical style, while the other two are used equally. Youths of KZKZ group show almost equally analytical and compose styles; RU group is full of analysts and realists.

Girls of KZRU group, although they are more idealistic, but there are also realists, analysts and synthesizers. Among KZKZ girls there are no realists, which makes it dissimilar to any of the groups. RU group resembles strongly the KZRU group, it uses the four styles, but unlike it, it uses a pragmatic style, instead compose one.

## 5. Conclusions

The comparative analysis of the manifestations of the thinking style in KZKZ, KZRU and RU groups has shown that there is a dependency of the national language, since language is a bearer of the culture of each ethnic group and defined sex-role characteristics.

In groups of KZKZ and KZRU this pattern is higher as the mental strategies of KZKZ respondents prefer to exercise native Kazakh language. It should be noted that this feature appears by women mostly.

Study, analysis, and use of knowledge about ethnic and cultural peculiarities of mental strategies manifestation in a cognitive sphere of the Kazakhs' and the Russian's psychic can properly optimize and adequately improve the processes of interpersonal communication and interaction between members of these nationalities. On this basis it lets develop practical recommendations to improve their collaboration and optimization of educational programs in state.

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